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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,589	09/29/2004	Christian Braeuer	R.303601	2528
2119	7590	12/14/2005	EXAMINER	
RONALD E. GREIGG GREIGG & GREIGG P.L.L.C. 1423 POWHATAN STREET, UNIT ONE ALEXANDRIA, VA 22314			MOULIS, THOMAS N	
			ART UNIT	PAPER NUMBER
			3747	

DATE MAILED: 12/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/509,589

Applicant(s)

BRAEUER ET AL.

Examiner

Thomas N. Moulis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-31 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 12-26, 28, 30 and 31 is/are rejected.
- 7) ☐ Claim(s) 27 and 29 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/22/05</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 12-15, 19-21, 23-25, 28, 30 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Takagi et al US 5,687,696.

The reference discloses a fuel injection system for supplying fuel to direct- injection internal

combustion engines, having a central fuel reservoir (8) between a feed pump (4) and a plurality of injectors (10) to be supplied with fuel, which communicate with the central fuel reservoir (8), and the injectors (10) are mounted in a cylinder head (1) of the engine for direct injection of fuel into a plurality of combustion chamber (2), the improvement wherein the fuel reservoir (8) is at least partly integrated into the cylinder head (1).

See Figures 1 and 3-4 showing the cylindrical fuel reservoir being integrated with the cylinder head in the vicinity of the injectors (10). See column 3 for discussion. Note also the fuel reservoir (8) is formed partly or entirely by a recess (8) in the cylinder head (1). The cylindrical recess can be drilled in the cylinder head or formed with an insert during casting of the head.

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Claims 12-26, 28 and 30-31 are rejected under 35 U.S.C. 102(b) as being anticipated by DE 826 216.

The reference discloses a fuel injection system for supplying fuel to direct- injection internal

combustion engines, having a central fuel reservoir (8) between a feed pump (not shown) and

a plurality of injectors (4) to be supplied with fuel, which communicate with the central fuel reservoir (8), and the injectors (4) are mounted in a cylinder head (1) of the engine for direct injection of fuel into a plurality of combustion chamber , the improvement wherein the fuel reservoir (8) is at least partly integrated into the cylinder head (1).

See Figure 1, showing the fuel rail (8) is cylindrical and formed integrally with the cylinder head (1) in the vicinity of the injectors.

The recess is formed by boring or casting an insert.

Regarding claims 16-18, note the high pressure lines, in the form of connecting conduits (14), which are also integrated into the cylinder head.

Allowable Subject Matter

3. Claims 27 and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

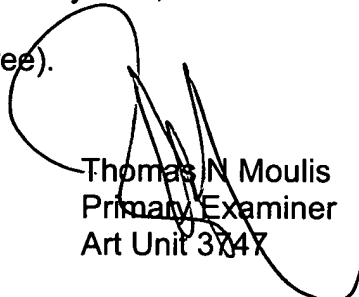
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4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See the cited art showing fuel cylinder heads with integrated fuel reservoirs.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas N. Moulis whose telephone number is 571 272 4852. The examiner can normally be reached on M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Yuen can be reached on 571 272-4856. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thomas N Moulis
Primary Examiner
Art Unit 3747

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